

What is claimed is:

1. A handwriting recognition software program for providing instructions to one or more processors to execute processes on an embedded device configured for establishing a network connection with at least one other computing device, comprising:
  - (a) an encoding module for encoding character strokes input into an input device as integer values; and
  - (b) a character recognition module for recognizing characters from the integer values.
2. The handwriting recognition software program of Claim 1, wherein the encoding module is configured to encode characters as a series of at least one directional movement performed on the input device.
3. The handwriting recognition software program of Claim 1, wherein the character recognition module is configured to recognize termination of a stroke near a beginning point for recognizing closed characters.
4. The handwriting recognition software program of Claim 1, wherein the character recognition module is configured to recognize pen up-down events for encoding multiple stroke characters.
5. The handwriting recognition software program of Claim 1, wherein each character stroke is recognized as an integer selected from a group of integers consisting of at least four integers.

6. The handwriting recognition software program of Claim 5, wherein the at least four integers at least include integers corresponding to four movement directions on the input device.
7. The handwriting recognition software program of Claim 6, wherein the at least four integers further include an integer corresponding to a closed stroke.
8. The handwriting recognition software program of Claim 5, wherein the at least four integers further include an integer corresponding to a closed stroke.
9. The handwriting recognition software program of Claim 1, wherein each character stroke is recognized as an integer which is represented by less than four bits of information.
10. The handwriting recognition software program of Claim 1, wherein the character recognition module is configured to recognize a minimum distance between position samples as an instance of a new sample.
11. The handwriting recognition software program of Claim 1, wherein the character recognition module is configured to recognize an end distance between a beginning and an ending of a stroke.
12. The handwriting recognition software program of Claim 11, wherein the character recognition module is configured to recognize a closed character when the end distance is less than a maximum distance.

13. The handwriting recognition software program of Claim 1, wherein the character recognition module is configured to recognize multi-stroke characters.

14. The handwriting recognition software program of Claim 13, wherein a multi-stroke character is recognized when a time between pen-up and pen-down is less than a threshold time, and to recognize that a character is complete when the time between pen-up and pen-down exceeds the threshold time.

15. The handwriting recognition software program of Claim 13, wherein a multi-stroke character is recognized when the character recognition module fails to recognize a single stroke as a character.

16. The handwriting recognition software program of Claim 15, wherein when a time between pen-up and pen-down exceeds a threshold time and a character is not yet recognized, the character recognition module is configured to reset and restart.

17. The handwriting recognition software program of Claim 1, wherein a plurality of spatial areas are defined on the input device, and the character recognition module recognizes that a character is complete when a pen-down event occurs in a different box from the one wherein a character was just being input.

18. A handwriting recognition software program for providing instructions to one or more processors to execute processes on an embedded device configured for establishing a network connection with at least one other computing device, comprising:

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- (a) an encoding module for encoding character strokes input into an input device; and
- (b) a character recognition module for recognizing characters corresponding to the input character strokes, and
- (c) wherein a plurality of spatial areas are defined on the input device, and
- (d) wherein the character recognition module recognizes that a character is complete when a pen-down event occurs in a different box from the one wherein a character was just being input.

19. A method for recognizing handwriting on an input device of an embedded device configured for establishing a network connection with at least one other computing device, comprising the steps of:

- (a) encoding character strokes input into an input device as integer values; and
- (b) recognizing characters from the integer values.

20. The method of Claim 19, wherein the encoding step includes encoding characters as a series of at least one directional movement performed on the input device.

21. The method of Claim 19, wherein the recognizing step includes recognizing termination of a stroke near a beginning point for recognizing closed characters.

22. The method of Claim 19, wherein recognizing step includes recognizing pen up-down events for encoding multiple stroke characters.

23. The method of Claim 19, wherein each character stroke is recognized as an integer selected from a group of integers consisting of at least four integers.

24. The method of Claim 23, wherein the at least four integers at least include integers corresponding to four movement directions on the input device.

25. The method of Claim 24, wherein the at least four integers further include an integer corresponding to a closed stroke.

26. The method of Claim 23, wherein the at least four integers further include an integer corresponding to a closed stroke.

27. The method of Claim 19, wherein each character stroke is recognized as an integer which is represented by less than four bits of information.

28. The method of Claim 19, wherein the recognizing step includes recognizing a minimum distance between position samples as an instance of a new sample.

29. The method of Claim 19, wherein the recognizing step includes recognizing an end distance between a beginning and an ending of a stroke.

30. The method of Claim 29, wherein the recognizing step includes recognizing a closed character when the end distance is less than a maximum distance.

31. The method of Claim 19, wherein the recognizing step includes recognizing multi-stroke characters.

32. The method of Claim 31, wherein a multi-stroke character is recognized when a time between pen-up and pen-down is less than a threshold time, and to recognize that a character is complete when the time between pen-up and pen-down exceeds the threshold time.

33. The method of Claim 31, wherein a multi-stroke character is recognized when the character recognition module fails to recognize a single stroke as a character.

34. The method of Claim 33, wherein when a time between pen-up and pen-down exceeds a threshold time and a character is not yet recognized, the character recognition module is configured to reset and restart.

35. The method of Claim 19, wherein a plurality of spatial areas are defined on the input device, and the recognizing step includes recognizing that a character is complete when a pen-down event occurs in a different box from the one wherein a character was just being input.

36. A method for recognizing handwriting on an input device of an embedded device configured for establishing a network connection with at least one other computing device, comprising the steps of:

- (a) encoding character strokes input into an input device; and
- (b) recognizing characters corresponding to the input character strokes, and
- (c) wherein a plurality of spatial areas are defined on the input device, and
- (d) wherein the recognizing step includes recognizing that a character is complete when a pen-down event occurs in a different box from the one wherein a character was just being input.